Amendments to the Specification

Please replace paragraph [0074] with the following amended paragraph:

[0074] Referring next to FIG. 10b, a ray trace of the outermost facet from FIG. 10a is shown. Shown are the total internal reflection face 108, ray fan 109, uppermost ray 110, lowest ray 111, complement to incidence angle C 112, internal angle D 113, external angle E 114, and inward tilt angle Q 115 of the Cartesian-oval entry face 116.

Please replace paragraph [0075] with the following amended paragraph:

[0075] The maximum rim angle of a TIR lens is a function of the relative position of its outermost facet. The ray fan 109 is generated by a source placed at the focal point 102 of FIG. 10. The uppermost ray 110 has an angle 120° relative to the system axis [[,]] 101 and is totally internally reflected at the top of TIR face 108. Lowest ray 111 has an angle 125°, and enters the facet 104 with an external angle E=125° - 90° + Q, where Q is the inward tilt angle of the Cartesian-oval entry face. This external angle E is refracted to internal angle D 113, followed by total internal reflection at TIR face 108, at incidence angle 90° - C 112 that must always be larger than the critical angle, $\sin^{-1}(1/n)$, for refractive index n. Typically, the maximum practical deflection E-D is about 30°, while the deflection by the TIR face is much larger, 180°-2C. Ray 111 continues upward with inward angle S 117 (here 8°) from the system axis 101. Its originally downward course has been turned 132°, and it will be deflected even further when it exits the lens.

Please replace paragraph [0085] with the following amended paragraph:

[0085] FIG. 13 depicts a cutaway view of Type III TIR lens 150, showing the elliptical-cylinder shape of cutaway sidewall 151. Facets 152 terminate at the bottom plane 153. Central lens 154 shares the tilt of system axis 155, which passes centrally through it, as well as through focal point 156. (FIG. 13a) It is readily apparent that construction of a mold for this lens would involve the customary rotational turning of the circular shape of the interior of facet grooves 152, then cutting away all material below plane 153. The cavity corresponding to elliptical-cylinder sidewall 151 could, of course, not be formed rotationally, unlike the case with the circular symmetry of prior-art on-axis TIR lenses. FIG. 13a shows the same lens 150 seen from below, with focal point 156 shown as located on system axis 155, which passes centrally through convex central lens 154, but with bottom plane 153 removed for clarity. Faceted grooves 152 can be seen to have circular symmetry about axis 155.